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OCT 06 2006

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently Amended): A wavelength converter that is used in an optical communication system utilizing wavelength multiplexing, this wavelength converter for use in optical communications being characterized by the fact that the converter has a quasi-phase matched quartz crystal that has a second-order nonlinear effect, and a light coupling device that mixes the signal light and control light and inputs this mixed light into the quasi-phase matched quartz crystal,

wherein the wavelength converter further comprises quartz type optical fibers between the light coupling device and the quasi-phase matched quartz crystal as well as after the quasi-phase matched quartz crystal,

the quasi-phase quartz crystal comprises an optical waveguide with a periodically inverted sign of the nonlinear optical constant d_{33}, and

the mode diameter of the quartz type optical fibers is substantially the same as the mode diameter of the optical waveguide.

Claim 2 (Original): The wavelength converter for use in optical communications according to Claim 1, which is characterized by the fact that the converter has a fiber amplifier that amplifies the output light from the quasi-phase matched quartz crystal.

Claim 3 (Previously Presented): The wavelength converter for use in optical communications according to Claim 1, which is characterized by the fact that the converter has an optical filter that cuts the control light and the signal light that remains without being subjected to an optical conversion, on the emission side of the quasi-phase matched quartz crystal.

Claim 4 (Previously Presented): The wavelength converter for use in optical communications according to Claim 1, which is characterized by the fact that the converter has fiber collimators disposed before and after the quasi-phase matched quartz crystal.

Claim 5 (Previously Presented): The wavelength converter for use in optical communications according to Claim 1, which is characterized by the fact that the converter has means for controlling the direction of polarization of the light that is input into the quasi-phase matched quartz crystal.

Claims 6-16 (Canceled).

Claim 17 (New): The wavelength converter for use in optical communications according claim 1,

wherein the period is approximately 70 μm,

the wavelength of the control light is 0.785 μm, and

the wavelength range of the signal light is 1.53-1.57 μm.